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24 September 1958

MEMORANDUM FOR THE UNDER SECRETARY OF THE AIR FORCE

SUBJECT: Reorientation of SENTRY Program

1. Objectives: The basic objectives of the ARPA Sentry R & D program should be as follows:

a. Develop an improved area reconnaissance system based on the use of recovery techniques.

b. Develop a point surveillance system based on the use of the film readout techniques.

c. Continue development of the ferret reconnaissance and surveillance system.

2. General Outline of Revised Program.

The surveillance system is to be based on the use of the presently planned film readout techniques. The reconnaissance system is to be based on the use of the film recovery technique. Since it appears that a much improved reconnaissance camera system could be available for flight test in early 1961, the development of a recoverable Atlas boosted capsule should be scheduled so as to meet a first camera flight test date in early 1961. Since it appears that the surveillance camera system could be available for flight test in mid 1961, the development of an Atlas boosted capsule and associated ground equipment should be scheduled so as to meet a first system prototype flight test date in mid 1961.

3. Funding.

The funding for the development of the Sentry program should be assumed to be as follows: FY 1960 - $160 M. Expenditures under the ARPA program [illegible] only such development and installation of equipment [illegible] required for the testing of an engineering prototype of [illegible] systems. The FY 1959 figure includes the 13 flight [illegible] calendar 1959.

4. List of Possible Detailed Program Changes to be Considered by USAF.

The following [illegible] changes which ARPA suggests be considered in the preparation [illegible] to meet the objectives in paragraphs 1 and 2 above. [illegible] in 3 above.

a. Delete program to develop storable fuels in second stage of launch vehicle.

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By [illegible] Group 4

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b. Delete development of 6" read-out camera from program, and delete all testing (ground or space) of components of the 6" system, except where these are identical, or very similar to, components of the 36" system.

c. Consider very carefully the possible use of the recoverable Atlas space vehicle as a flying test bed for flight test of components of the surveillance camera system and the ferret system.

d. Consider the possibility of scheduling development and flight testing of the recoverable ATLAS launched vehicle so as to be able to make use of it in connection with the 1960 operational recovery program, should such use become desirable for any reason, such as a requirement for more film capacity, addition of new gear needed for improved recovery, addition of any other components which might improve the system, or addition of necessary modifications to convert to mapping capability, etc.

e. Consider carefully any changes, particularly in connection with subsystem H and I, which would be brought about by the change in the requirement for the read-out system from use in an area reconnaissance system to use as a point surveillance system only, and modify the program accordingly.

5. Operational Program.

ARPA supports the U. S. Air Force proposed operational program as discussed in my office this date.

/s/ Roy W. Johnson
/t/ Roy W. Johnson
Director

cc: Gen. Schriever